

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-16 (Canceled).

Claim 17 (New): An airfoil of a rotor or a stator of a turbine engine, comprising:

a main body including a suction sidewall faced to a suction side, a pressure sidewall opposed to the suction sidewall, a leading edge, a trailing edge opposed to the leading edge, a tip end face at an axially outer end of the main body, and a platform at an axially inner end of the main body, the platform including a flow pathway and a dovetail; and

a protective coating coated on the leading edge, the suction sidewall, the pressure sidewall, the tip end face, and the flow pathway, the protective coating including one or more oxidation-resistant metals selected from the group consisting of aluminum, chromium, aluminum alloys, and chromium alloys, and being formed by processing a portion as a workpiece of an electric spark machine with a tool electrode including the oxidation-resistant metals and kept in temperatures from 950° C to 1100° C.

Claim 18 (New): The airfoil of claim 17, wherein the protective coating is given residual compression stress by a peening treatment.

Claim 19 (New): A gas turbine engine comprising the airfoil of claim 17.

Claim 20 (New): A method for surface-treatment of a component of a turbine engine, comprising:

depositing a coating of an oxidation-resistant metal on a portion of an untreated component by processing a portion as a workpiece of an electric spark machine with a tool electrode of the oxidation-resistant metal; and

keeping the coating and the component in temperatures from 950° C to 1100° C to diffuse the coating into the component; and

processing the coating with a peening treatment.

Claim 21 (New): The method of claim 20, wherein the portion is limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component by making the tool electrode to approach the portion.

Claim 22 (New): An airfoil surface-treated by the method of claim 20.

Claim 23 (New): An airfoil of a rotor or a stator of a turbine engine, comprising:

a main body including a suction sidewall faced to a suction side, a pressure sidewall opposed to the suction sidewall, a leading edge, a trailing edge opposed to the leading edge, a tip end face at an axially outer end of the main body, and a platform at an axially inner end of the main body, the platform including a flow pathway and a dovetail;

a protective coating coated on the leading edge, the suction sidewall, the pressure sidewall, the tip end face, and the flow pathway, the protective coating including SiC and being formed by processing a portion as a workpiece of an electric spark machine with a tool electrode including Si in a liquid including alkane hydrocarbons.

Claim 24 (New): The airfoil of claim 23, wherein the protective coating is given residual compression stress by a peening treatment.

Claim 25 (New): A gas turbine engine comprising the airfoil of claim 23.

Claim 26 (New): A method for surface-treatment of a component of a turbine engine, comprising:

forming a coating including SiC coated on a portion of an untreated component by processing a portion as a workpiece of an electric spark machine with a tool electrode of Si in a liquid including alkane hydrocarbons.

Claim 27 (New): The method of claim 26, further comprising:
processing the coating with a peening treatment.

Claim 28 (New): The method of claim 26, wherein the portion is limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component by making the tool electrode to approach the portion.

Claim 29 (New): An airfoil surface-treated by the method of claim 26.